FOX RIVER CURRENT

May/June 2000 Vol. 3, No. 3 Update from the Lower Fox River Intergovernmental Partnership

Agreement to be Reached for Completion of SMU 56/57

By Susan Pastor, U. S. Environmental Protection Agency

An agreement among the U.S. Environmental Protection Agency (EPA), Wisconsin Department of Natural Resources (DNR) and Fort James Corporation is in the works to complete the dredging at Sediment Management Unit (SMU) 56/57.

Called a Consent Order, the Federal agreement states that Fort James will finish the project that was started in the fall of 1999. At press time, the agreement in principle said Fort James must clean up 50,000 cubic yards of polychlorinated biphenyl (PCB)-contaminated sediment to at least 10 parts per million (ppm). The level of exposed PCBs is currently as high as 310 ppm. To be completely released from further responsibility at 56/57, Fort James must reach 1 ppm. Sediment with levels between 1 and 10 ppm will have a 6-inch layer of sand placed over it to form a "post-dredging cover," according to EPA Remedial Project Manager James Hahnenberg.

"This small area is the hottest spot in the river for PCBs," Hahnenberg continued. "Some parts of the river have higher cleanup numbers and some lower, which will eventually be calculated into an average."

In addition, the edges of the excavated area will be sloped to prevent contaminated sediment from falling into the cleaned area and causing recontamination, Hahnenberg explained.

The agreement is a Federal tool typically used to ensure that all parties understand the objectives of the cleanup and to commit to them. "Fort James' cooperation is commendable," Hahnenberg continued. "We appreciate that the company is being a very responsible corporate citizen."

The work, which will be done under EPA and DNR oversight, is expected to resume in August and should be completed by November.

Hahnenberg concluded, "I think we have a chance to get some very good results."

Editor's note: The Fox River Current will provide a complete update on the terms of the agreement in the July/August issue.

Results of Deposit N Project are Encouraging

By Greg Swanson, Wisconsin Department of Natural Resources

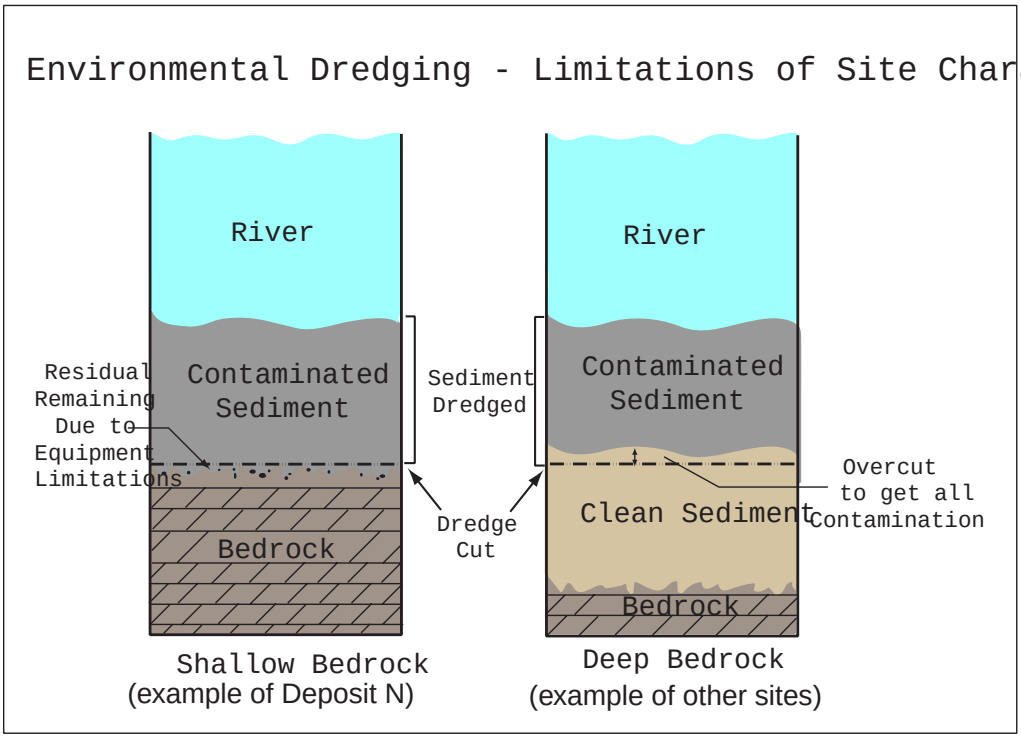
The Wisconsin Department of Natural Resources (DNR) has released the final results of the dredging project to remove polychlorinated biphenyl (PCB)-contaminated sediment from the Fox River at the Deposit N site near Little Chute and Kimberly. According to Bill Fitzpatrick, DNR project manager for the site, "The project successfully met the primary objective of demonstrating that environmental dredging of PCB-contaminated sediment can be performed in an environmentally safe manner."

Deposit N covered an area of approximately three acres and contained about 11,000 cubic yards of contaminated sediment, which had PCB concentrations as high as 186 parts per million (ppm). An environmental dredge was used to carefully remove very light and soft sediment contaminated with PCBs under challenging conditions that included shallow bedrock, high river velocities, and being directly adjacent to a sensitive industrial water intake. The dredging was performed entirely within the stringent water quality standards set to protect human and ecological health in the river. One of the most extensive real-time monitoring networks ever used at a cleanup site showed no exceedances of permits and no degradation of the water quality in the river.

See Deposit N, page 2

Deposit N from page 1

Fitzpatrick went on to say, "While experience at other sites showed that we could remove the PCBs without harm to the river, the watchful eyes and attention given to this important first cleanup in the Fox River tended to make us a bit nervous. Also, with the water intake of the area's largest employer right next to our dredging work, we probably would not get a second chance if we polluted the river, shut down the plant, and sent all of its workers home."



Fitzpatrick said the systems and environmental controls worked as expected. "The dredging contractors and engineering consultants did their jobs and, as the monitoring data rolled in, the plant managers started to relax a bit. At one of the regular update meetings, the plant managers said that, with all of their monitoring, they couldn't even tell we were dredging PCBs right above their intake."

The project tackled one of the more challenging contaminated sediment deposits on the river. Soft sediment over shallow bedrock is a difficult site on which to operate a hydraulic dredge. Knowing this, the project was designed as a "mass removal" project. According to Fitzpatrick, "We had a hot spot sitting right on fractured bedrock where the river was constantly hitting the material and pumping PCBs into the water column and food chain. We knew the presence of bedrock would slow us down, but the site was a priority, so the plan was to capture as much of the PCB mass as possible, keep these PCBs out of the fish and wildlife and help accelerate the river's recovery at this site." Mass removal is typically used where conditions allow contractors to get the majority of the contamination out but would otherwise require bringing in increasingly more expensive and complex systems to capture the last residual sediment.

The project met the design goals and removed 7,200 cubic yards of PCB-contaminated sediment, including 1,000 cubic yards from the adjacent Deposit O site, and captured 112 pounds of PCBs. The Deposit O site was added to the project because the Deposit N site was completed in a timely way and was under budget. Sediment PCB concentrations were reduced but, as expected, not eliminated. The average PCB in the remaining sediment was cut to 12 ppm or from between 2 to 10 times less than the pre-project study results of 20 to 130 ppm.

This demonstration project had a total cost of $4.3 million, a significant portion of which was associated with the pioneering nature of this first effort, an accelerated schedule, and winter construction. A cost analysis of project expenditures indicates that a more representative cost for another, similar project would be in the $250 per cubic yard range and that a large scale project of this type that removed 100,000 cubic yards or more would cost less than $200 per cubic yard.

The conditions at Deposit N contrast with another pilot project at sediment management unit (SMU) 56/57, conducted by the DNR and the Fox River Group (FRG) below DePere. At the SMU 56/57 site, deep bedrock allows the contractors to dig below the contamination and into clean sediment and, in the best case, capture all of the contamination. Although the SMU 56/57 project

was not completed due to winter conditions and insufficient funds, the ability to dredge through all the contaminated layers was demonstrated in several small area within the project boundaries.

Between the two projects, the state has gathered experience representing the range of conditions that occur in the 39 miles of the Fox River impacted by PCB contamination. "Knowing that the public and decision-makers would want the most accurate information possible for the guidance planning for a whole river cleanup, DNR staff were eager to tackle the challenges of the different types of sites in the river," said Fitzpatrick.

Bruce Baker, DNR Water Division Deputy Administrator, noted, "We have now conducted two projects, one with EPA and one with the FRG, and, where dredging was completed, we have had success. As we had hoped, these projects will provide valuable information for the completion of the Remedial Investigation/Feasibility Study (RI/FS)."

Baker continued, " We will need to carefully evaluate the sites based on their physical characteristics to determine if dredging is the appropriate alternative for each site. We know dredging was very effective, however, it may not be suitable for all sites."

Baker concluded, "These demonstration projects show that the right technique done properly is very encouraging for the future of restoring the Fox River and for the elimination of fish consumption advisories."

The Deposit N project was sponsored by the DNR and the U.S. Environmental Protection Agency. The project was designed and administered by Foth and Van Dyke of Green Bay and the remediation contractor was Koester Environmental Services of Evansville, Indiana. The landfill contractors were Winnebago County and Wayne Disposal of Michigan. Local property owners cooperated by providing land for the onshore operations and access to the river for the remediation work.

Copies of the report will be available at the Fox River information repositories located at libraries in Appleton, Green Bay, Sturgeon Bay, Oneida and Oshkosh. An electronic version can also be found at http://www.dnr.state.wi.us/org/water/wm/lowerfox.

Out and About...

By Susan Pastor, U.S. Environmental Protection Agency

The Fox River Intergovernmental Partnership, made up of the U.S. Environmental Protection Agency (EPA), Wisconsin Department of Natural Resources (DNR), U.S. Fish and Wildlife Service (FWS), National Oceanic and Atmospheric Administration (NOAA), Oneida Tribe of Indians of Wisconsin and Menominee Indian Tribe of Wisconsin, regularly provides speakers to organizations in the Fox Valley area. The following partners recently made presentations:

February

- George Boronow, DNR: Federation of Great Lakes Sport Fishing Clubs, Sheboygan; Fox River cleanup.

March

- Jim Hahnenberg, EPA: Saginaw Chippewa Tribe, Chicago; general Lower Fox River update and Superfund Involvement.
- David Allen, FWS: Conservation Alliance of Brown County; Green Bay Natural Resources Damage Assessment (NRDA).
- David Allen, FWS: Green Bay Remedial Action Plan (RAP) Science and Technical Advisory Committee; Green Bay NRDA.

April

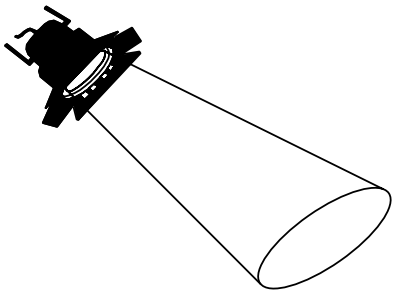
- Jim Hahnenberg, EPA: Kent College, Chicago; general Fox River update.

May

- Bri Bill, Milt Clark, Jim Hahnenberg, Roger Grimes, EPA; David Allen, FWS; Bruce Baker, Greg Hill, Ed Lynch, Bill Fitzpatrick, DNR; Cynthia Hirsch, Shari Eggleson, Department of Justice (DOJ): presenters at PCB Sediments Conference sponsored by the Wisconsin Department of Justice and the New York State Attorney General's Office, Madison; PCB contamination issues.

In response to reader requests, the Fox River Current will regularly feature other river projects similar to the Lower Fox River.

Spotlight On:



By Susan Pastor, U.S. Environmental Protection Agency

The Housatonic River

Like the Lower Fox River, the 120-mile long Housatonic River, located in western Massachusetts and Connecticut, has been studied for more than 20 years. During that time, polychlorinated biphenyls (PCBs) have been identified in the river, as well as on a 250-acre piece of property owned by General Electric (GE) in Pittsfield, Massachusetts. Nearby Unkamet Brook, Silver Lake, Allendale School, and floodplain properties along the river are also contaminated by PCBs.

The PCB cleanup in the Housatonic River is underway through a legal agreement with General Electric. In the above photo, sheet piling is used to isolate sections of the river. The water is then pumped out and the contaminated sediment is removed. A liner and rocks are placed on the river bottom, and the water is allowed to fill back in. The sheet piling is then moved along the river to clean up another section.

GE used PCBs for manufacturing and servicing electrical transformers at its Pittsfield plant from the 1930s through 1977, the same year Congress banned their use and distribution. After numerous studies and analyses, it appears that a complete cleanup is in sight. An extensive cleanup, natural resource damage compensation and economic redevelopment will take place as detailed in an agreement called a Consent Decree.

Lodged with the U.S. District Court of Massachusetts in October 1999, the agreement will require GE to do a variety of cleanup measures on the GE plant site including cleaning up soil, sediment and ground water; rerouting Unkamet Brook; installing a protective cap; doing ground-water monitoring; and implementing deed restrictions. At Allendale School, located adjacent to the GE plant, contaminated fill will be removed. Nearby contaminated floodplain properties will be cleaned up to state standards for residential property. Silver Lake, west of the GE site, will also be cleaned up to a standard that will protect human and ecological use.

GE also agreed to compensate the public for natural resource damages that could not be addressed through the cleanup. In addition to paying the government $15 million, plus interest, GE will do habitat and recreational enhancements and create native grassland communities and floodplain forests and wetlands. The entire endeavor is expected to cost at least $250 million.

Bryan Olson, U.S. Environmental Protection Agency (EPA) Region 1's Housatonic River team leader explained, "We went through two years of intensive negotiations to resolve the Superfund and natural resource liabilities."

According to Olson, the redevelopment aspect of the agreement was important to the city. "We were working with the City of Pittsfield on redevelopment because GE used to employ 15,000 people and now it's down to about 2,000," he continued. "The city has been greatly impacted and it's good that GE wants to help."

Olson, one of five EPA remedial project managers assigned to this unusually large project, said it was important for the agencies and the city to stick together. "We kept tying everything together," he stated. "We were trying to bring it all together in one package so GE, the government agencies and the citizens could have some sort of finality."

The public was especially interested in seeing finality. Similar to the Lower Fox River, citizens, businesses, environmental groups and elected officials expressed their concerns.

To address those concerns, Olson said several public meetings were held. "We had turnouts of over 100 people," he said. "A citizens coordinating council was also set up in 1998 to air and resolve different issues."

In addition to high public awareness, the two river projects are similar in that PCBs are the primary contaminant at both. Not only have PCBs been found in the rivers' sediment, PCBs have also been found in ducks inhabiting both rivers. While EPA Region 5 and Wisconsin Department of Natural Resources (DNR) staff are concerned about the presence of PCBs in Lower Fox River ducks, EPA Region 1 staff has even more reason to be concerned.

Housatonic duck breast tissue samples had an average concentration of 7.1 parts per million (ppm). When adjusted for fat content, according to the U.S. Food and Drug Administration (FDA), the PCB concentrations averaged 648 ppm. The tolerance level for poultry set by the FDA is 3 ppm fat content, which makes the Housatonic's average over 200 times higher than the national tolerance.

According to Bob Durand, secretary of the Massachusetts Executive Office of Environmental Affairs, "These test results are further evidence of the serious damage to the Housatonic River. We must expedite cleanup efforts to protect wildlife habitat along the river from further PCB contamination."

Part of that protection also involved human consumption. As with the Lower Fox River, a major public information program was developed. In addition to EPA's regular public meetings, five information repositories were established. Massachusetts Department of Public Health also issued a waterfowl consumption advisory, established a toll-free information hotline and offered free blood tests to determine exposure levels.

The Lower Fox River duck breast tissue samples also showed high levels of PCBs, but not nearly as high as those found in the Housatonic's. The average PCB concentration for the Lower Fox River was 0.4 ppm. This translates to a fat content of 36 ppm, which is 12 times higher than the national tolerance.

While the concentration in ducks found on the Fox River is lower than the Housatonic's average, people who eat duck from the Lower Fox River should still be concerned, according to J. Milton Clark, Ph.D., senior health and science advisor for Region 5's Superfund office. "People who are active duck eaters should adhere to the state's waterfowl advisories," he added. "If you are eating many duck meals per year, there could be a potential for increased adverse health effects such as reproductive, immune, or cancer."

Although it appears both the Housatonic and Lower Fox Rivers are on their way toward being cleaned up, there is still a lot of work to be done. "Region 1 is ahead of us," said Region 5 Remedial Project Manager Jim Hahnenberg. "They have actually excavated yards and a school, dredged sediment and have a Remedial Investigation/Feasibility Study for the downstream area."

Although the two projects are comparable, according to Hahnenberg, there is one big difference. "Region 1 has a GE settlement," he explained. "GE has agreed to pony up the money and we have not seen that kind of commitment here."

For more information on the Housatonic River, contact Bryan Olson at (617) 918-1365, Jim Hahnenberg at (312) 353-4213 or refer to the Region 1 home page at http://www.epa.gov/region01.

Profile On... Doug Cox

Lifelong Menominee reservation resident is proud to serve tribe

By Susan Pastor, U.S. Environmental Protection Agency

Working for the Menominee Indian Tribe of Wisconsin is something that tribal member Doug Cox chose to do. While others left the reservation to pursue their careers, Cox, 39, was able to find a fulfilling position with the tribe.

He could have continued on in his family's logging business where he sawed timber before loading it on trucks. But, after taking a class at Rhinelander College in timber production and later earning an associate's degree in natural resource management from Fox Valley Technical College in Appleton, he decided to pursue a career that would eventually enable him to work closer to home.

"I'm fortunate because I contribute to the operations of the tribe," he explained. "If I were working off the reservation, I wouldn't be contributing and that's important to me."

He contributes by providing expertise gained from his eight years as an environmental specialist and technician. As a technician for five years, he was responsible for much of the environmental fieldwork such as sampling, surveying, monitoring well, and fisheries work. Today, as a specialist, he is involved in management and grant-writing activities, as well as serving as the appointed representative to the Lower Fox River Natural Resources Damage Assessment (NRDA).

Serving as an NRDA trustee representative is very different from his normal duties, Cox said. "The profile of the project is different," he continued. "My duties as an environmental specialist are spelled out in a job description but my duty to the Fox is an appointment by tribal government. The tribe is devoted to this project as a trustee."

Doug Cox

As a trustee representative, Cox applies his philosophies to all aspects of the environment. His interest in protecting natural resources comes from his close ties to the outdoors. He said he and his three children live "in the country" in Keshena on Legend Lake. Together, they fish and hunt on and off the reservation while he instills in them Menominee culture.

"Menominee's creation goes back thousands of years," he stated. "Fishing is part of our history and culture, especially for lake sturgeon, which is deeply rooted in our culture. When elders teach about the creation of the tribe, lake sturgeon is always part of that story."

Although he has fished for trout and salmon in the Fox and its tributaries to Green Bay and Lake Michigan, he explained that lake sturgeon was more of a major source of food for the tribe. Fishing and hunting still play a big part in the Cox family's lifestyle.

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"As a family, we spend a lot of time on the water," said Cox. "We enjoy it for recreation and for sustenance. We fill our freezer with fish and game and eat it all year round."

As someone who enjoys the outdoors, Cox has found it particularly rewarding to see the tribe's environmental work progress over the past seven years. "We have come a long way," he concluded. "Tribal members are interested in the goals of protecting our lands. To see them have an interest in that is something that you can't put into words."

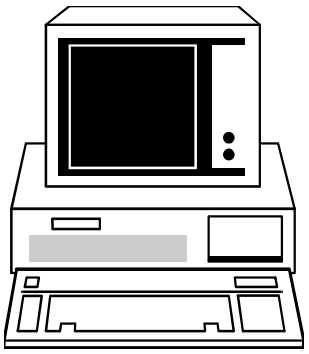
Check out these web sites:

http://www.dnr.state.wi.us/org/water/wm/lowerfox/

http://www.epa.gov/region5/foxriver/

http://www.fws.gov/r9dec/nrdar/nrdamain.html

http://www.fws.gov/r3pao/nrda/



Information Available at Local Libraries

The Intergovernmental Partners invite the public to review technical reports, fact sheets and other documents related to the Lower Fox River cleanup at information repositories set up in the reference sections of the following local libraries. Information repositories at the public libraries in DePere, Kaukauna, Little Chute, Neenah, and Wrightstown have been discontinued. However, binders containing fact sheets will be mailed to and maintained at these locations as well as at the repositories listed below.

- Appleton Public Library, 225 N. Oneida St., Appleton, WI; 920-832-6170
- Brown County Library, 515 Pine St., Green Bay, WI; 920-448-4381, ext. 394
- Door County Library, 104 S. Fourth Ave., Sturgeon Bay, WI; 920-743-6578
- Oneida Community Library, 201 Elm St., Oneida, WI; 920-869-2210
- Oshkosh Public Library, 106 Washington Ave., Oshkosh, WI; 920-236-5200

An Administrative Record, which contains detailed information upon which the selection of the SMU 56/57 removal action and final site cleanup plan will be based, is also available for review at the Appleton and Brown County Libraries.

Prepared by the Fox River Intergovernmental Partnership: Wisconsin Department of Natural Resources, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, Menominee Indian Tribe of Wisconsin, Oneida Tribe of Indians of Wisconsin, and National Oceanic and Atmospheric Administration. Supporting agencies include the Wisconsin Department of Health and Family Services, the U.S. Agency for Toxic Substances and Disease Registry, and the U.S. Army Corps of Engineers.

Disclaimer: The opinions expressed in these articles are solely those of the authors and are not necessarily shared by all members of the Fox River Intergovernmental Partnership.

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